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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,820	02/21/2007	Osamu Tamura	3400.P1430US	2799
23474 7590 07/09/2009 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER ZIMMER, MARC S				
ART UNIT		PAPER NUMBER		
1796				
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07/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,820

Applicant(s)

TAMURA ET AL.

Examiner

MARC S. ZIMMER

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)
Paper No(s)/Mail Date 07/24/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not at all understood what is meant when it is said of the composition that it, "contaminates, upon curing by heating, a glass plate at a contact angle of 70° C or less to the glass plate." The only context in which a contact angle is mentioned in the Specification is in reference to the contact angle of water on a glass plate coated with the composition- see page 16- and this is not-at-all what the claims seem to indicate. Clarification is required.

There is the additional matter that the claims seemingly describe the behavior of the composition against a glass plate but the claims do not initially indicate that the surface to which the semiconductor pellet is bonded is a glass plate.

Claim 5 provides for the use of addition reaction curing silicone rubber composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 5 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35

U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Analysis

In addition to the aforementioned issue, it shall be noted that the Specification does not appear to delineate what are the characteristics of the adhesive that lead to the emphasized outcome. For the purpose of evaluating the claims against the prior art, it has been presumed that the contact angle is that of water on a surface comprising the cured adhesive and, further, any similarly-constituted adhesive will inherently satisfy this aspect of the invention. Indeed, silicones are, in general, quite hydrophobic and hence the contact angle of water against a silicone-coated surface would ostensibly be low. It is also noteworthy that the condition set out in the final three lines of the independent claims is, in the Examiner's estimation directed to a particular behavior exhibited by the composition (though this is an open question since the Specification, again, appears to suggest that the contact angle being reported is that for a water drop in contact with a surface coated with the cured composition). Accordingly, it is not the case that the member to which the pellet is bonded is necessarily a glass plate. Moreover, claims 1-3 are directed to compositions and an anticipatory reference need not even teach the intended use stated therein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchnick et al., U.S. Patent # 5,770,216. Mitchnick discloses an array of polymer compositions to which are added zinc oxide particles as an essential additive. The compositions have various applications, one of which is an adhesive for bonding semiconductor pellets to a tab (column 6, lines 40-45). Among the adhesives useful in this capacity are silicone rubber adhesives comprising the same materials as are recited in claim 2. Relevant to the weight loss limitation, both the alkenyl-functional base polymer and organohydrogensiloxane are pre-treated so as to remove volatiles to the extent that there are only 500 ppm or less of a low molecular weight siloxane fraction having a vapor pressure higher than 10 mmHg at 200° C. This is accomplished by stripping in vacuo at elevated temperatures. See column 22, line 5 through column 23, line 45.

Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayoshi et al., U.S. Patent # 5,173,765. See the abstract and column 3, line 11 through column 4, line 7. It is contemplated in column 4, lines 61-66 that the organohydrogensiloxane, like the alkenyl-functional polyorganosiloxane should be relatively devoid of volatile materials and that this is accomplished by stripping.

Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Takita, JP 2002060719 A. See the abstract and paragraphs [0006, 0016, 0018].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchnick et al., U.S. Patent # 5,770,216 or Nakayoshi et al., U.S. Patent # 5,173,765 or Takita, JP 2002060719 A in view of Gray et al., U.S. Patent # 5,364,921. None of the three disclosures over which claims 1-2 and 4-5 are rejected contemplate the employment of an adhesion promoter that includes an aluminum or titanium compound. Gray et al. disclose an addition-curable silicone rubber composition that exhibits good self-adhesion to glass and metals. The composition contains, in addition to the organo-functional silanes bearing alkoxysilyl groups that are exemplary of the adhesion promoters disclosed by Mitchnick and the others, an alkoxysilicon compound adhering to the formula outlined in column 10, line 19, and also a titanium compound containing Ti-O-CH₃ residues. The rubber compositions containing this combination of materials as an adhesion promoter are said to offer better initial/wet adhesion (column 9, lines 26-37) than do the self-adhering compositions of the prior art that are mentioned in the Background portion of their disclosure. Like the compositions described by *Mitchnick*, *Nakayoshi*, and *Takita*, the prior art compositions summarized in the Background

section of *Gray* contain only an organo-functional alkoxysilane as an adhesion promoter and, thus, it would be expected that, by modifying the teachings of these references to include the additional alkoxysilicon compound and titanium compound containing Ti-O-CH₃ residues, similarly improved initial/wet adhesion could be realized in these inventions as well.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC S. ZIMMER whose telephone number is (571)272-1096. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 6, 2009

/Marc S. Zimmer/
Primary Examiner, Art Unit 1796